



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

12/15/2011

Stephen J. Campbell, Chief
Watts Bar Special Projects Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Subject: EPA's Comments on the "Draft Final Environmental Statement, Related to the Operation of Watts Bar Nuclear Plant, Unit 2." Supplement, NUREG-0498, July 2011.

Dear Mr. Campbell,

Pursuant to Section 309 of the Clean Air Act (CAA) and Section 102(2)(C) of the National Environmental Policy Act (NEPA), the U.S. Environmental Protection Agency (EPA) Region 4 has reviewed the "Draft Final Environmental Statement, Related to the Operation of Watts Bar Nuclear Plant, Unit 2. Supplement, NUREG-0498, July 2011.

This Draft Final Environmental Impact Statement (DFEIS) is the results of The Tennessee Valley Authority (TVA), submitting to the U.S. Nuclear Regulatory Commission (NRC) On March 4, 2009, a request to reactivate its application for a license to operate a second light-water nuclear reactor (Unit 2) at the Watts Bar Nuclear (WBN) Plant in Rhea County, TN. EPA understands that the proposed action is NRC issuance of a 40-year facility operating license for WBN Unit 2. WBN Unit 2 is a pressurized-water reactor that could produce up to 3,425 megawatts thermal. This reactor-generated heat would be used to produce steam to drive steam turbines, by providing 1,160 megawatts electric of net electrical power capacity to the region.

For renewal of a license, EPA understands that Title 10 of the Code of Federal Regulations (10 CFR 51.95(c)) states that the NRC shall prepare a Supplemental DFEIS which is a Supplement 2, (NUREG-0498) to previously conducted Environmental Impact Statements, The current Draft FEIS that EPA reviewed serves to meet this requirement. EPA finds that this document appropriately includes an analysis that evaluates the environmental impacts of the proposed action of relicensing WBN Unit 2.

The environmental impacts from the proposed action are appropriately classified as SMALL, MODERATE, or LARGE. As set forth in the GEIS (generic environmental impact statement), Category 1 issues are those defined as meeting all of the following criteria:

- The environmental impacts associated with the issue are determined to apply either to all plants or, for some issues, to plants having a specific type of cooling system or other specified plant or site characteristics.
- A single significance level (i.e., SMALL, MODERATE, or LARGE) has been assigned to the impacts, except for collective offsite radiological impacts from the fuel cycle and from high-level waste and spent fuel disposal.
- Mitigation of adverse impacts associated with the issue is considered in the analysis, and it has been determined that additional plant-specific mitigation measures are likely not to be sufficiently beneficial to warrant implementation.

In summary, EPA notes the following assumptions and conclusions of the Draft FSEIS:

1. The NRC did not note any issues for air quality impacts, nor did the Staff find any new and significant information during the environmental review.
2. The NRC evaluated the direct and indirect impacts due to groundwater use during the license renewal term and concluded that the impacts would be SMALL.
3. The NRC did not find any new and significant surface water issues during the environmental review. The NRC evaluated the direct and indirect impacts of entrainment, impingement, and heat shock from continued operations during the license renewal term on fish and shellfish. After an extensive review including new information, NRC staff found that the adverse effects of entrainment and impingement would be small and would not destabilize or noticeably alter the aquatic biota of the Chickamauga Reservoir. EPA agrees that mitigation measures and the requirements of the NPDES permits would minimize the physical and thermal effects of the heated discharge on aquatic resources.
4. With regards to Solid Radioactive Waste, and Spent Fuel Storage, NRC has not fully determined long-term storage location for Classes B and C Low Level Waste (LLW). Based on the NRC staff's independent review of information since the 1978 FES-OL, NRC concluded that the environmental impacts of radioactive waste storage and disposal associated with WBN Unit 2 would be small.
5. With respect to environmental justice, the NRC also finds that no disproportionately high and adverse human health impacts would be expected in special pathway receptor populations in the region as a result of the consumption of water, local food, fish, and wildlife.
6. The Draft FSEIS however, does not mention the condition of the WBN Unit 2 facility. EPA recommends more discussion on the condition of the WBN Unit 2 physical condition relative to relicensing. NRC should discuss any historical maintenance activities that will demonstrate the condition and structural integrity of Unit 2. The identified additional information (data, analyses, and/or discussions) should be included (or referenced as appropriate) in the Final SEIS.

EPA's review of NRC's Draft FSEIS received an "EC-2" rating, meaning that there are environmental concerns with additional information requested in the FSEIS. Specifically, as outlined in EPA's comment letter dated May 14, 2007, referenced subject, TVA's Draft Supplement Environmental Impact Statement Watts Bar Nuclear Plant Unit 2. We are also, request additional clarifying information on the on-going structural safety analysis and repairs, upgrades and/or retrofits to Watts Bar Unit 2, be mentioned in the FSEIS.

In conclusion, the Draft FSEIS is clearly written and provides useful information for assessment of the proposal to finish and operate Watts Bar Unit 2. If you wish to discuss EPA's comments, please contact me at 404/562-9611 (mueller.heinz@epa.gov) or Larry Gissentanna, of my staff at 404-562-8248 (Gissentanna.larry@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Mueller", with a stylized, cursive script.

Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management

Reference Memo dated May 14 2007



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May 14, 2007

Ms. Ruth M. Horton
Tennessee Valley Authority
400 W. Summit Hill Drive, WT 11D-K
Knoxville, TN 37902

**RE: EPA Review and Comments on
Draft Supplemental Environmental Impact Statement (DSEIS)
Completion and Operation of
Watts Bar Nuclear Plant Unit 2
CEQ No. 20070113**

Dear Ms. Horton:

The U. S. Environmental Protection Agency (EPA), Region 4, reviewed the Draft Supplemental Environmental Impact Statement (DSEIS), pursuant to Section 309 of the Clean Air Act and Section 102 (2)(C) of the National Environmental Policy Act (NEPA). The purpose of this letter is to provide the Tennessee Valley Authority (TVA) with EPA's comments regarding potential impacts of the completion and operation of the Watts Bar Nuclear Plant Unit 2.

The proposed action of completing and operating the Watts Bar Nuclear plant Unit 2 would provide additional baseload capacity, and maximize the use of existing assets. The facility uses intakes from the Tennessee River for plant cooling, and discharges wastewater via three outfalls to the Tennessee River.

Based on EPA's review of the DSEIS, the project received an "EC-1" rating, meaning that environmental concerns exist. Specifically, protecting the environment involves the continuing need for appropriate storage and ultimate disposition of radioactive wastes generated on-site, as well as continuing measures to limit bioentrainment and other impacts to aquatic species from surface water withdrawals and discharges, and compliance with the NPDES Permit.

The National Pollutant Discharge Elimination System (NPDES) Permit Program authorizes the discharge of pollutants from certain facilities to waters of the United States. Administration of the NPDES permit program in Tennessee is delegated by EPA to the Tennessee Division of Water Pollution Control. The Watts Bar Nuclear Plant has an NPDES Permit issued by the Division of Water Pollution Control. The NPDES Permit limits specific pollutant discharges from the plant, requires monitoring of discharges, and regulates the flow and thermal impacts of discharges. The NPDES permittee has operated and is operating in compliance with the NPDES permit requirements.

The DSEIS acknowledges that continuing radiological monitoring of all plant effluents and appropriate storage of spent fuel assemblies and radioactive wastes on-site is required for this project. Ultimately, long-term radioactive waste disposition will require transportation of wastes to a permitted repository site. In particular, please address the following concerns in the FSEIS:

- Solid Radioactive Wastes (page 81): The shipping arrangements for Unit 2 after 2008 appear uncertain with Barnwell's closing. Please provide more information on the availability and disposal costs options for Clive, Utah facility, Sequoyah Nuclear Plant or other disposition options under consideration.
- Spent Fuel Storage (page 83): Clarify whether the referenced dry cask facility is being processed as a definite project with funding to construct it. Is Unit 2 operation contingent on this facility being constructed? Clarify where the current Unit 1 spent fuel is being stored. Does the capacity for this new facility consider the contingency of Yucca Mountain being indefinitely postponed? Is the data in Table 3-24 in addition to the data given for Unit 1, or the cumulative dimensions, capacity, etc.?

In conclusion, the DSEIS is clearly written and provides useful information for assessment of the proposal to finish and operate Unit 2. However, clarification is needed regarding radioactive waste disposition after 2008 and TVA's proposed Dry Cask storage plans. Thank you for the opportunity to comment on this document. We look forward to reviewing the FSEIS. If we can be of further assistance, please contact Ramona McConney of my staff at (404) 562-9615.

Sincerely,

A handwritten signature in black ink, appearing to read "Heinz Mueller", with a stylized flourish at the end.

Heinz J. Mueller, Chief
NEPA Program Office